

REMARKS

Claims 1 and 5 have been amended. Claim 2 has been canceled.

The Examiner has objected to applicant's claim 2 for reciting the limitation "the first changing speed". The Examiner has also rejected applicant's claim 2 under 35 USC § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim applicant's invention. Claim 2 has been canceled thereby obviating this objection and rejection.

The Examiner has rejected applicant's claims 1-5 under 35 U.S.C. §103(a) as being unpatentable over the Hisama (JP 09-098322) publication in view of the Mori (U.S. 5,455,685) patent. Applicant has amended applicant's independent claims 1 and 5, and with respect to such claims, as amended, and their respective dependent claims, the Examiner's rejection is respectfully traversed.

Applicant's independent claims 1 and 5 have been amended to better define applicant's invention. More particularly, applicant's amended independent claim 1 now recites an apparatus having an ND filter which is made to be capable of being inserted into or detached from an optical path, and limits incident light in a case of existing on the optical path, and an iris which limits the incident light. Claim 1 now further recites a determining circuit which determines whether or not the ND filter exists on the optical path, and a changing device which, on the basis of an output signal corresponding to the determination result of the determining circuit, controls the iris at a first speed in a case that said ND filter is being inserted into the optical path or is being detached from the optical path, and controls said iris at a second speed slower than the first speed in a case that said ND filter is on the optical path or is out of the optical path. Applicant's independent method claim 5 has been similarly amended.

Such a construction is not taught or suggested by the cited art of record. More particularly, the Examiner has argued as follows:

“... Hisama discloses an ND filter (105) which is capable of being inserted into or detached from an optical path, and limits incident light in case of existing on the optical path; an iris (103) which also limits incident light and a changing device ... which controls the iris. ... However Hisama fails to teach that the changing device which controls the iris at a first speed in a case that the ND filter is being inserted into the optical path or is being detached from the optical path, and controls the iris at a second speed slower than the first speed in a case that the ND filter is on the optical path. ... [w]hat is needed is compensation to the deficiency in controlling the speeds of the iris in response to a change of light intensity which is also caused by the operations of the ND filter at the image sensor in Hisama. Mori teaches ... the speed of iris ... is controlled based on a change of light intensity impinging on an image sensor. ... According to Mori ... the iris speed is increased when condition (3) or (7) indicating that a changeover of a photographing scene is met, which is equivalent to the ND filter being inserted into or being removed from the optical path ... and the iris speed is decreased when condition (4) or (8) indicating that almost no change has occurred, which is equivalent to the ND filter is already completely on the optical path to cause a stability of the light intensity impinging on the image sensor at the moment. ... Therefore, it would have been obvious to one of ordinary skill in the art to recognize that the imaging apparatus in Hisama would be enhanced in view of the teaching of Mori by enabling control of operating speed of the iris, wherein the operating speed of the iris is increased in case that the ND filter is being inserted into or being removed from the optical path, and the operating speed of the iris is decreased in a case that the ND filter is on the optical path so that a stable exposure control of the imaging apparatus is realized.”

While applicant does not agree with the Examiner's above analysis of the Hisama reference and the Mori patent, it is evident from the Mori patent that the conditions 1-8 used for changing the iris speed are all based on detecting and evaluating luminance data. In the Mori patent, luminance data is evaluated, as discussed in detail in column 5, lines 29, through

column 6, line 29, of the patent, and based on this evaluation of the luminance data the speed of the iris is increased or decreased. Accordingly, a system based on the combination of the Hisama reference and Mori teachings, while it would include an ND filter, would still change the iris speed based on the detected luminance data.

This contrasts with applicant's claimed invention in which control of the iris speed is based on a determination of whether or not the ND filter exists on the optical path or not. Again, in the system of the references, change of the iris speed would be based on a determination of the luminance data, and not on a determination of the position of the ND filter. Applicant's amended claims 1 and 5, and their respective dependent claims, all of which recite, in one way or another, the latter feature, thus patentably distinguish over the combination of the Hisama and Mori references.


In view of the above, it is submitted that applicant's claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration of the claims is respectfully requested.

If the Examiner believes that an interview would expedite consideration of this Amendment or of the application, a request is made that the Examiner telephone applicant's counsel at (212) 790-9273.

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Respectfully submitted,

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